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NEW RECORDS OF ORNITHOPHILOUS LOUSE-FLIES (DIPTERA: HIPPOBOSCIDAE: ORNITHOMYINAE) FROM THE RUSSIAN FAR EAST

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Summary. Two parasitic louse flies (Diptera: Hippoboscidae), polyxenous *Ornithoica exilis* (Walker, 1861) known earlier in Oriental and Australia Regions, Japan (Honshu, Ryukyu Islands) and oligoxenous *Ornithomya comosa* (Austin, 1930) known earlier from the Oriental Region and Asian part of the Palearctic Region (Kazakhstan, Kyrgyzstan, West Siberia of Russia, Japan), are recorded from the Russian Far East (Primorskii krai) for the first time. Keys to the Far Eastern species of the genera *Ornithoica* Rondani, 1878 and *Ornithomya* Latreille, 1802 are given also.

Key words: louse flies, *Ornithoica*, *Ornithomya*, fauna, first records, key, Russia.

Э. П. Нарчук, А. В. Матюхин, В. П. Шохрин, М. Ю. Марковец. Новые для фауны Российского Дальнего Востока виды орнитофильных мух-кровососок (Diptera: Hippoboscidae: Ornithomyinae) // Дальневосточный энтомолог. 2019. N 384. С. 15-20.

Резюме. На Дальнем Востоке России в Приморском крае найдены две паразитические мухи-кровососки (Diptera: Hippoboscidae). Известный ранее из Ориентальной области, Австралии и Японии (Хонсю, о-ва Рюкю) поликсенный вид *Ornithoica exilis* (Walker, 1861) впервые указывается для России, а известный ранее из Ориентальной области и азиатской части Палеарктической области (Япония, Казахстан, Киргизия, Западная Сибирь) олигоксенный вид *Ornithomya comosa* (Austin, 1930) – впервые для Дальнего Востока. Составлены определительные таблицы дальневосточных видов родов *Ornithoica* Rondani, 1878 и *Ornithomya* Latreille, 1802.

INTRODUCTION

Ornithophylous louse flies (Hippoboscidae: Ornithomyinae) are obligate blood-sucking ectoparasite of birds. Among them there are polyxenous and oligoxenous species. Ornitho-

phylous louse flies can transfer by migrant birds-hosts on big distances and move there to other birds, including aborigenous birds. It is especially true in regard of polyxenous species. Louse flies damage birds at once as bloodsuckers and as vectors of pathogenic organisms of different nature, viruses, ricketses, bacteria and protistes. Some pathogens of bird's infections develop in the bodies of louse flies (Bequaert, 1953; Baker, 1967; Ganez *et. al*., 2002; Farajollahi *et al*., 2005; Matyukhin & Boiko, 2007, 2008). Birds can transfer some men's pathogens as well (Pavlovsky & Tokarevich, 1966; Lvov & Ilichev, 1979).

Hippoboscidae of fauna of Russia and former USSR were studied by Doszhanov (2003), but mainly on material from Kazakhstan. Distribution louse flies on the territory of Russia has been poorly known and need further studies in some detail. Nineteen species of the subfamily Ornithomyinae are known on the territory of Russia (Soós & Hůrka, 1986, with addition).

Abbreviations: ZIN – Zoological Institute of Russian Academy of Sciences, St. Petersburg, Russia; ZMMU – Zoological Museum of the M.V. Lomonosov Moscow State University, Moscow, Russia.

RESULTS

Genus *Ornithoica* Rondani, 1878

NOTES. Genus *Ornithoica* includes 24 species distributed in tropical, subtropical and temperate zones in Asia and Africa (Maa, 1969; McClure *et al*., 1973, with changes and adding). List of host-species of the genus includes 285 genera of birds from 59 families and 17 orders (Maa, 1969). Seven species of the genus are recorder in the Palearctic Region: *O. bistativa* Maa, 1966, *O. exilis* (Walker, 1861), *O. momiyami* Kishida, 1932, *O. podicipis* von Röder, 1892, *O. stipituri* (Schiner, 1868), *O. turdi* (Olivier in Latreille, 1811) and *O. unicolor* Speiser, 1900 (Soós & Hůrka, 1986; Mogi, 2014). These species are distributed mostly in tropical zones of Old World and, except *O. turdi*, occur only along the southern edges of the Palearctic. Two species were recorded on Russian Far East (Farafonova, 2001). Now *O. exilis* found on Primorskii krai and added to the fauna of Russia. A key to species of the genus known from Russian Far East is given below.

Key to species of the genus *Ornithoica* from the Russian Far East
(modified after Farafonova, 2001)

1. Anal cell of wing twice long as wide. Scutellum with 4–6 long bristles …............……….. 2
– Anal cell of wing in three times as long as wide. Scutellum with 8–10 long bristles. Anchor-like spines near abdominal apex in female scattered and all markedly smaller than those near abdominal base, no multispinose warts. Wing 3.9–4.4 mm long. [Oriental Region, Japan (Hokkaido, Honshu, Ryukyu Islands), Korean Peninsula, Kazakhstan, Russia (Primorskii krai)] ...…………………………………….……….…….... *O. unicolor* Speiser
2. Body size larger (Fig. 1). Wing 2.8–3.5 mm long (Fig. 2). Minor scutellar bristles not less than 2/3 as long as major. Para-anal tuft of female is composed of 3–12 (usually 5–8) setae which are entirely or mostly uniform in length and robustness, and not shorter than longest bristles on tergite 6. Anchor-like spines near abdominal apex as large as or larger than those near abdominal base .... *O. exilis* (Walker)
– Body size smaller and paler than in *exilis*. Wing 2.4-2.8 mm long. Minor scutellar bristles distinctly finer and either much paler than or less than 1/2 as long as major ones. Para-anal tuft of female with a few setae, uneven in length and robustness, almost always markedly shorter and finer than longest bristles on tergite 6. [New Guinea, Solomon Is., Australia, Japan, Russia (Primorskii krai)] .... *O. stipituri* (Schiner)

***Ornithoica exilis* (Walker, 1861)**
Figs 1, 2

MATERIAL. **Russia**: Primorskii krai, Ussuriysky (=Suputinsky) Natural Reserve, 2.X 1948, 2 specimens, collected by A.I. Kurentzov without name of host bird (ZIN); Ussuriysky district, Rakovka village (=Ussuri oblast, Voroshilov rayon, Rakovka), 27.VII 1936, 1♂, 2♀, were taken from *Accipiter nisus* (Linnaeus, 1758) and 1♀ from *Circus aeruginosus* (Linnaeus, 1758) by V.E. (unfornunately failed to established exact name of collector) (ZMMU).

NOTES. *Ornithoica exilis* was described from New Guinea and widely distributed in the Oriental and Australian Regions and found in Japan (Honshu, Ryukyu Islands) (Mogi, 2014). The species has awide host range: normally or less frequently breeding on members of the Coraciiformes, Passeriformes, Psittaciformes, Cuculiformes, Columbiformes and Falconiformes, with stray records from Ciconiiformes, Galliformes, Gruiformes, Strigiformes, Caprimulgiformes, Apodiformes, Trogoniformes and Piciformes (Maa, 1966). The species was found on the Okinawa Rail *Gallirallus okinawae* (Gruiformes: Rallidae) in Okinawa Island, Japan (Mogi, 2014). In Russia flies were collected at the end of July and in October. It is likely that flies breed in Primorskii krai. Specimens brought by migrant birds may be taken in May or early June.

Genus *Ornithomya* Larteille, 1802

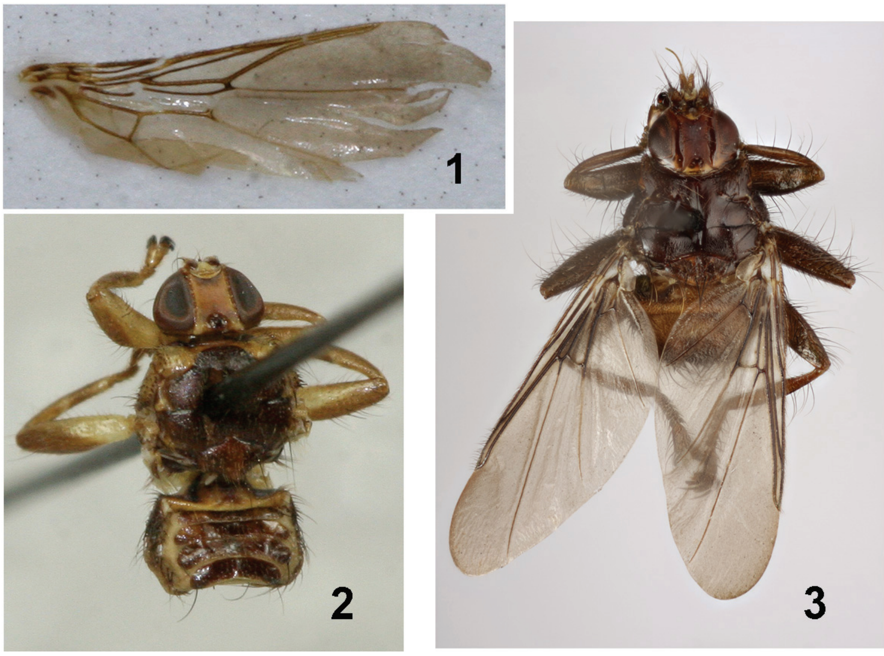
NOTES. The genus includes 29 species, distributed over the World (Maa, 1969; McClure *et al*., 1973, with changes and adding). Five species are known on the territory of Russia: *O. avicularia* (Linnaeus, 1758), *O. biloba* (Dufour, 1827), *O. chloropus* (Bergroth, 1901), *O. comosa* (Austen, 1930), *O. fringillina* (Curtis, 1836). Two of them, *O. biloba* and *O. comosa*, are oligoxenous species associated with Hirundinidae, other – polyxenous species. Farafonova (2001) recorded 3 species of this genus from the Russian Far East. We add the fourth species. A key to species of the genus known from Russian Far East is given below.

Key to species of the genus *Ornithomya* from the Russian Far East
(modified after Farafonova, 2001)

1. Costal sector between R_1 and R_{2+3} no more than sector between R_{2+3} and R_{4+5} ………….......... 2
– Costal sector between R_1 and R_{2+3} longer than between R_{2+3} and R_{4+5} ……………................… 3
2. Brown spots on ventral side of head in form of triangle and do not reach yugular setae, which are situated on sides of occipital foramen. Scutellum with 4 preapical setae. Wing in hind part with 4 longitudinal stripes of microtichia. Adult 1.9–2.5 mm .... *O. frigillina* (Curtis)
– Triangle brown spots on ventral side of head are sharp narrowed and reach yugular setae, which are situated on sides of occipital foramen. Scutellum as a rule with 6 preapical setae. Wing in hind part with 3 longitudinal stripes of microtichia. Adult 2.1–2.6 mm .... ………...........…………………………………………………… *O, chloropus* (Bergroth)
3. Wing dark and all surface evenly covered by microtrichia. Scutellum with 10–12 reapical long setae. All body covered by hairs. Adult 2–2.5 mm (Fig. 3) ….…*O. comosa* (Austen)
– Surface of wing covered by microtrichia no more than 2/3 or less, base of wing without of microtrichia ..…….........…………………………………………………………………….4
4. Wing with microtrichia only on apex and in cell m_1. Scutellum with 8 preapical setae. Abdomen on apex with numerous long setae. Adult 3–3.5 mm ....………*O. avicularia* (L.)
– Microtrichia covered nearly all wing except base or only cells r_3 and m_2. Long setae absent on the apex of abdomem. Adult 2.5–2.6 mm ………....…………………..*O. biloba* (Dufour)

***Ornithomya comosa* (Austen, 1930)**
Fig. 3

MATERIAL. **Russia**: Primorskii krai, Terney district, Dzhigitovka River, 44˚50'11"N, 136˚2'39"E, 08.IX 2014, 2♂, 1♀, on *Delichon dasypus* (Bonaparte, 1850) (leg. Markovets); Lazo district, Glazkovka village, 19.VIII 2018 10♂, 4♀, 7 puparia, in the nests of *Cercopis daurica* (Laxmann, 1769) (leg. Shokhrin).



Figs 1–3. Ornithophylous louse flies. 1, 2 – *Ornithoica exilis* (Walker, 1861): 1 – wing; 2 – imago, dorsal view; 3 – *Ornithomya comosa* (Austen, 1830), imago, dorsal view. (1, 2 – photo: N.E. Vikhrev, 3 – photo: A.V. Kovalev).

NOTES. *Ornithomya comosa* is obligate specific parasite of birds of the family Hirundinidae. The species was described from India (Pusa, Bihar) where collected from sand martin *Riparia chinensis* (Grey, 1830) (Hirundinidae) and distributed in India, Malaya, Nepal, and Thailand (Austen, 1930; Maa, 1977). Doszhanov (1970, 2003) found this species in Kazakhstan, Kyrgyzstan and Russia (Siberia: Novosibirsk). The species was found also in Japan (Honshu, Kyushu, Ryukuy Islands) (Mogi, 2014). Here it is recorded from the Russian Far East for the first time.

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